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(54) **INTEGRATED INTERNET CAMERA SYSTEM AND METHOD**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,027,150 A 6/1991 Inoue et al.
5,825,413 A 10/1998 Mullis
(Continued)

FOREIGN PATENT DOCUMENTS

EP 1 062 800 B1 4/2003
WO WO-95/35627 A1 12/1995
(Continued)

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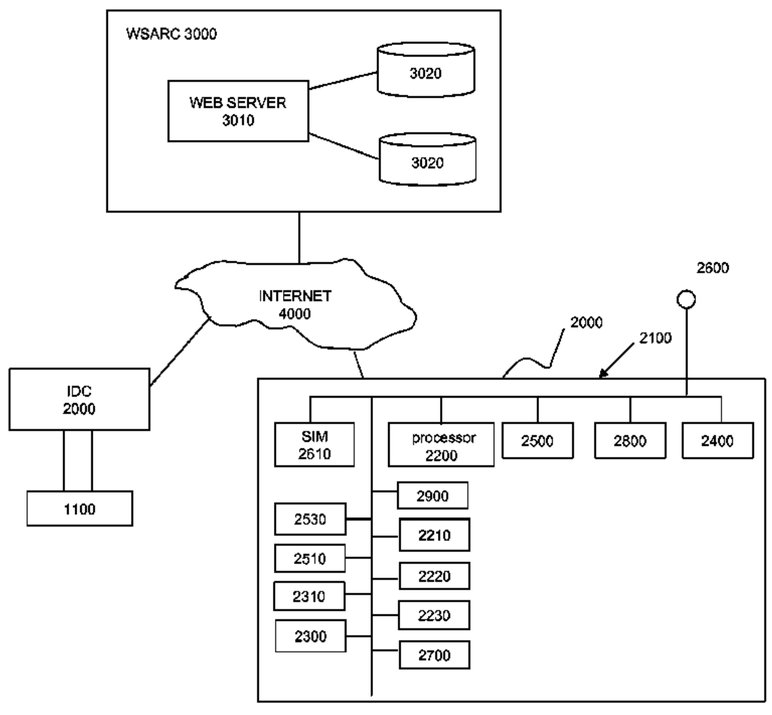
(57) **ABSTRACT**

An Internet direct device comprises an imaging system to capture audio or video images and a microprocessor. The microprocessor transmits the captured audio or video images to another Internet direct device upon image capture and receives audio or video images from the other Internet direct device over a communications network. The Internet direct device automatically connects to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection. The Internet direct device automatically switches to another available mode of connection when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

27 Claims, 2 Drawing Sheets



Related U.S. Application Data

continuation of application No. 13/037,303, filed on Feb. 28, 2011, now Pat. No. 8,134,600, which is a continuation of application No. 12/637,277, filed on Dec. 14, 2009, now Pat. No. 7,907,172, which is a continuation of application No. 11/484,373, filed on Jul. 11, 2006, now Pat. No. 7,633,524.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

5,994,699	A	11/1999	Akagawa	
6,239,833	B1	5/2001	Ozaki et al.	
6,567,122	B1	5/2003	Anderson et al.	
6,636,259	B1	10/2003	Anderson et al.	
6,658,091	B1	12/2003	Naidoo et al.	
6,744,467	B2	6/2004	Thompson et al.	
6,763,226	B1	7/2004	McZeal, Jr.	
6,882,326	B2	4/2005	Hirayama et al.	
6,930,709	B1 *	8/2005	Creamer et al.	348/211.3
6,980,232	B2 *	12/2005	Suzuki	348/207.1
7,272,641	B2 *	9/2007	Yamagishi	709/218
7,333,785	B1	2/2008	Lavelle et al.	
7,395,056	B2 *	7/2008	Petermann	455/422.1
2001/0005840	A1 *	6/2001	Verkama	705/67
2001/0017655	A1	8/2001	Arakt	
2001/0024232	A1	9/2001	Suzuki	
2002/0013815	A1	1/2002	Obradovich et al.	
2002/0053087	A1	5/2002	Negishi et al.	
2002/0143769	A1	10/2002	Tecu et al.	
2002/0164945	A1	11/2002	Olsen et al.	
2003/0020811	A1	1/2003	Hunter et al.	
2003/0227540	A1	12/2003	Monroe	
2004/0070670	A1	4/2004	Foster	
2004/0109063	A1	6/2004	Kusaka et al.	
2004/0152440	A1	8/2004	Yoda et al.	
2004/0169759	A1	9/2004	Kikuchi	
2004/0250288	A1 *	12/2004	Palmerio	725/105
2005/0014493	A1	1/2005	Ford	
2005/0055727	A1	3/2005	Creamer et al.	
2005/0057649	A1	3/2005	Marks	
2005/0078189	A1	4/2005	Creamer et al.	
2005/0096034	A1 *	5/2005	Petermann	455/422.1
2005/0099519	A1	5/2005	Creamer et al.	
2005/0102167	A1	5/2005	Kapoor	
2005/0130611	A1	6/2005	Lu et al.	
2005/0144653	A1	6/2005	Creamer et al.	
2005/0146609	A1	7/2005	Creamer et al.	
2005/0146610	A1	7/2005	Creamer et al.	
2005/0146621	A1	7/2005	Tanaka et al.	
2005/0149979	A1	7/2005	Creamer et al.	
2005/0213147	A1	9/2005	Minatogawa	
2006/0150211	A1 *	7/2006	Ritter	725/31
2006/0161960	A1	7/2006	Benoit	
2006/0290326	A1 *	12/2006	Bhesania et al.	323/210

FOREIGN PATENT DOCUMENTS

WO	WO-01/27787	A1	4/2001
WO	WO-2004/015951	A1	2/2004

* cited by examiner

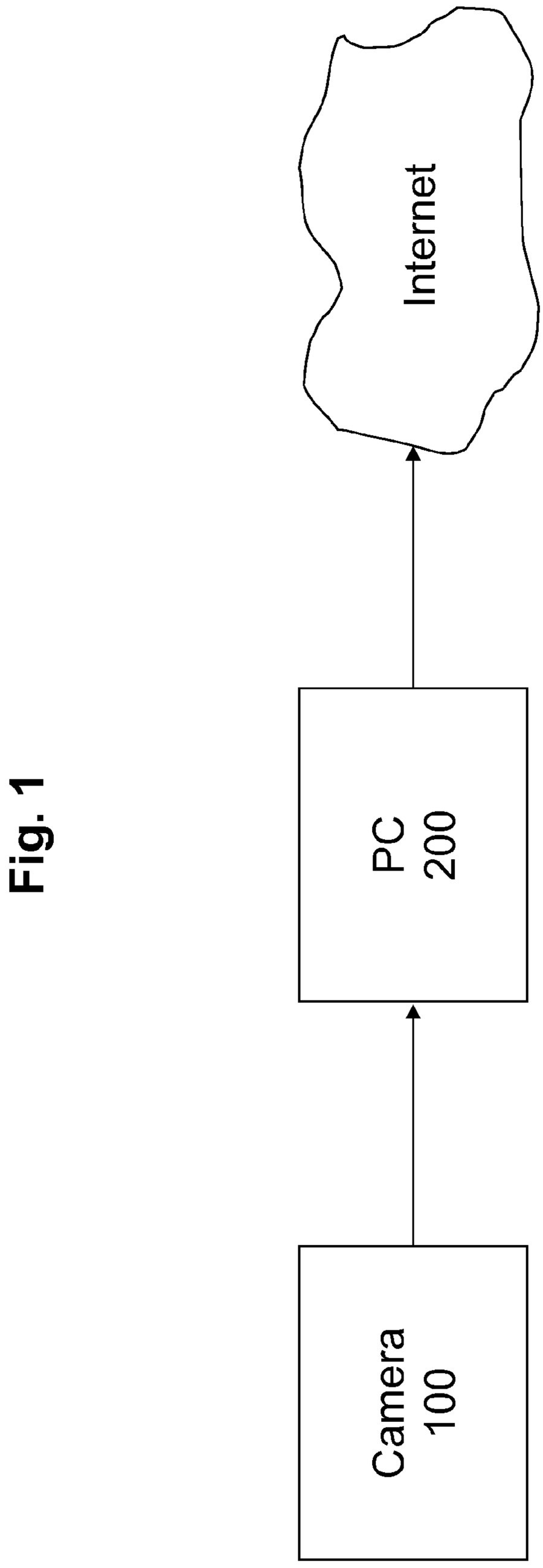
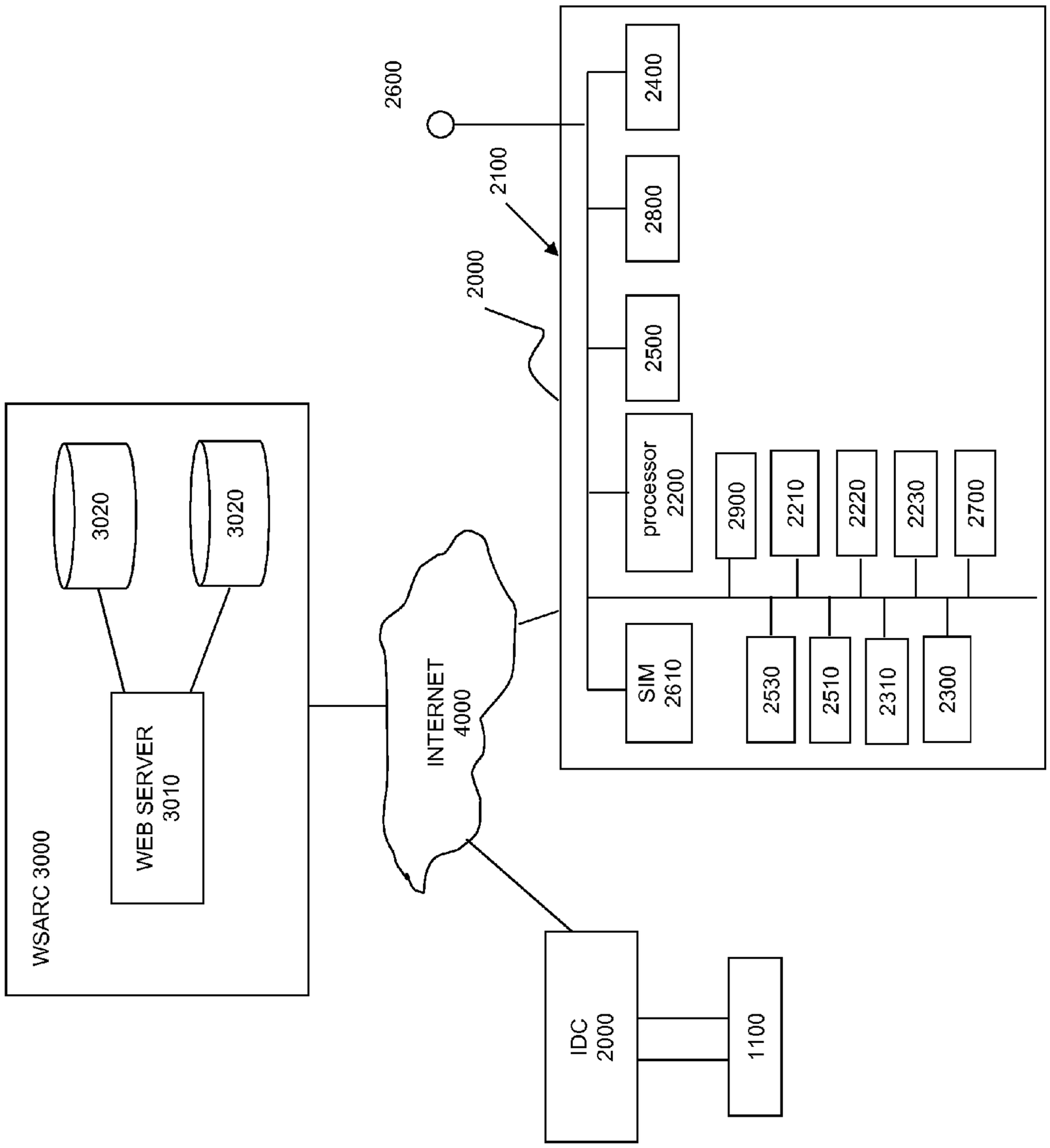


Fig. 1

Fig. 2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3020
3020
INTERNET 4000
IDC 2000
1100
2600
2100
2000
SIM 2610
processor 2200
2900
2530
2210
2510
2220
2310
2230
2300
2700
2500
2800
2400

INTEGRATED INTERNET CAMERA SYSTEM AND METHOD

RELATED APPLICATION

The present application is a continuation-in-part of application Ser. No. 13/925,498 filed Jun. 24, 2013, which is a continuation of application Ser. No. 13/415,346 filed Mar. 8, 2012, which is a continuation of application Ser. No. 13/037,303 filed Feb. 28, 2011, now U.S. Pat. No. 8,134,600, which is a continuation of application Ser. No. 12/637,277 filed Dec. 14, 2009, now U.S. Pat. No. 7,907,172, which is a continuation of application Ser. No. 11/484,373 filed Jul. 11, 2006, now U.S. Pat. No. 7,633,524, which claims a priority to U.S. Provisional Patent Application Ser. No. 60/702,470, each of which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

The present invention relates to an integrated Internet camera and/or system that is simple to install, operate and maintain, more particularly to an integrated Internet camera and/or video system that seamlessly and automatically transmits, receives, stores and/or archives still images, video and/or audio to and from a web site service/monitor center over the Internet using one or more integrated Internet cameras.

BACKGROUND OF THE INVENTION

The increasing use and awareness of the utility afforded by the Internet has transformed this simple image recording or capture process into a more complicated process requiring permanent storage and providing a secure centralized access to such storage from any remote location.

The currently available camera systems available are rigid and expensive. These systems are complex and require a host of peripheral devices to place an image on the Internet or Web. Additionally, these systems are bulky and not very portable. Moreover, the user must install one or more software to operate such camera systems. In a security monitoring application, these camera systems require a qualified operator to operate and maintain such system.

An example of such prior camera system is shown in FIG. **1**. In order for an operator to transfer the still image, video and/or audio file from a video camera **100** to an account on the Internet or Web, the operator must connect the video camera **100** to a personal computer PC **200**. The still image, video and/or audio file is transferred and stored in the PC **200** before it is transferred or uploaded onto the Internet. That is, the camera **100** must be connected to a network device (e.g., PC **200**) before it can transmit or receive still image, video or audio files.

Some have attempted to resolve this problem by purchasing a network card (wired or wireless) to enable their camera **100** to connect to the Internet without a separate network device (i.e., PC **200**). However, such solution is only available if the camera **100** can accept such network card and does not provide two-way access to the image file, i.e., transmitting to storage and receiving from storage. Additionally, such solution generally requires the operator to install the network card and accompanying software to "network" enabled camera **100**.

Therefore, it is desirable to have an integrated Internet camera system that can seamlessly upload and download video and/or audio files to and from the Internet, transmits these files to another web-enabled portable device (e.g., another camera, a personal digital assistant (PDA), a cell phone and the like), receive/download video and/or audio files from another portable device and/or store/archive these files in a secure website without the necessity of connecting to another device, such as a PC **200**.

OBJECTS AND SUMMARY OF THE INVENTION

There are many commercial and general consumer needs for this integrated Internet camera system. Some examples are in the fields of security, engineering, entertainment, advertising, child care monitoring and personal use, such as for family social occasions.

Accordingly, it is an object of the present invention to provide an integrated Internet camera system ("IICS") that allows even the novice users to seamlessly link their Internet direct cameras ("IDC") to a dedicated website of the IICS operator (such as a website archive and review center ("WSARC") to begin recording/storing/archiving of the images on the WSARC by simply powering their IDC. The present invention's ease of use, less working parts, lower maintenances, lower expenses, and easily accessible support enables the novice users to quickly employ and enjoy the IICS of the present invention. Additionally, the IICS is very flexible, it can be easily expanded and customized to provide a host of services and meet various needs of both personal and commercial users.

It is another object of the present invention to provide the IICS as aforesaid, which comprises IDC that can automatically and seamlessly connect to the WSARC by simply powering on the IDC. That is, when an operator takes a picture, the IDC automatically transmits the image to the WSARC.

Accordingly, it is an object of the present invention to provide an inexpensive and efficient camera having all necessary functionality for transmission and reception of real-time, stored and archived digital images to and from the Internet in a single, portable standalone apparatus (i.e., an embedded system), without requiring the use of an external controlling apparatus such as a personal computer.

Another object of the present invention is to provide a WSARC that enables an authorized user to schedule transmission of digital images to one or more IDC(s) upon receipt of an image from an IDC associated with that authorized user.

A further object of the present invention is to provide a portable, standalone camera that initiates transmission of digital images to the Internet, i.e., WSARC, upon an image capture.

In accordance with an exemplary embodiment of the present invention, an integrated Internet camera system for transmitting digital images to an Internet address comprises an image pickup, an optical module for forming an image on the image pickup, and an image capturing module for capturing digital images from the image pickup. A wireless device or SIM card connects and maintains the IDC's connection to the Internet for transmission of the digital image files to a user account associated with the IDC at a predetermined Internet address (i.e., WSARC) and transfers the digital image files to the user account. The digital image files in the user account are then available to authorized users of the account. Depending on the access privilege such authorized user may access the entire or a portion of the stored/archived digital image files.

In accordance with an exemplary embodiment of the present invention, an integrated Internet camera system comprises a website archive and review center (WSARC) for storing, archiving and managing images and an Internet direct camera (IDC) for capturing an image, automatically trans-

mitting the image to an account associated with the IDC on the WSARC upon image capture and receiving stored/archived image from the WSARC. The IDC comprises a display for displaying the captured image and the received image. The IDC automatically connects to the WSARC over an Internet connection on power-up.

In accordance with an exemplary embodiment of the present invention, an Internet direct device comprises an imaging system to capture audio or video images and a microprocessor. The microprocessor transmits the captured audio or video images to another Internet direct device upon image capture and receives audio or video images from the other Internet direct device over a communications network. The Internet direct device automatically connects to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection. The Internet direct device automatically switches to another available mode of connection when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

In accordance with an exemplary embodiment of the present invention, the Internet direct device further comprises a storage device for locally storing captured audio or video images and the received audio or video images.

In accordance with an exemplary embodiment of the present invention, the aforesaid Internet direct device is a tablet or a Smartphone with a camera comprising an optical or digital zoom lens to provide magnification for use as a binocular or microscope. The microprocessor controls the magnification of the optical or digital zooms lens.

In accordance with an exemplary embodiment of the present invention, the Internet direct device further comprises a GPS to determine a current location of the Internet direct device. The Internet direct device communicates with a satellite to obtain live satellite image of its current location.

In accordance with an exemplary embodiment of the present invention, the Internet direct device further comprises a touch keypad to receive an input comprising a location and zooming instructions from a user. The Internet direct device communicates with a satellite to obtain live satellite image of the location entered on the touch keypad and to adjust a magnification of the satellite image based on the zooming instructions.

In accordance with an exemplary embodiment of the present invention, the Internet direct device further comprises a white or colored LED to operate as a white or colored strobe light.

In accordance with an exemplary embodiment of the present invention, the Internet direct device further comprises a LCD display and a touch keypad to receive an input comprising magnification instructions from a user. The controls the LCD display to provide a magnified mirror and adjusts a magnification of the mirror based the magnification instructions.

In accordance with an exemplary embodiment of the present invention, the aforesaid microprocessor transmits the captured audio or video images to an account associated with the Internet direct device on a website upon image capture.

In accordance with an exemplary embodiment of the present invention, a method for transmitting and receiving audio or video images by an Internet direct device associated with a user over a communications network comprises the step of automatically connecting the Internet direct device to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection. An image capture system of the Internet direct device captures audio or video images. A microprocessor the Internet direct device transmits the captured audio or video images to another Internet direct device over the communications network upon image capture and receives audio or video images from the other Internet direct device over the communications network. The microprocessor automatically switches to another available mode of connection when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

In accordance with an exemplary embodiment of the present invention, a non-transitory storage medium comprises a program for transmitting and receiving audio or video images over a communications network. The program when executed by an Internet direct device associated with a user to cause the Internet direct device to automatically connect the Internet direct device to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection. The program causes the Internet direct device to capture audio or video images by an image capture system of the Internet direct device. The program causes the Internet direct device to transmit the captured audio or video images to another Internet direct device over the communications network upon image capture by a microprocessor of the Internet direct device, and receive audio or video images from the other Internet direct device over the communications network by the Internet direct device. the program causes the Internet direct device to automatically switch to another available mode of connection by the microprocessor when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is further explained in the description which follows with reference to the drawings, illustrating, by way of non-limiting examples, various embodiments of the invention, with like reference numerals representing similar parts throughout the several views, and wherein:

FIG. **1** shows a conventional stationary camera which captures and transmits images to the Internet using a local PC; and

FIG. **2** illustrates an Integrated Internet camera system in accordance with an exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

Turning now to FIG. **2**, there is illustrated an integrated Internet camera system (IICS) **1000** in accordance with an embodiment of the present invention comprising a plurality Internet direct cameras (IDCs) **2000** connected to a website archive and storage center (WSARC) **3000** over the Internet **4000**. The WSARC **3000** comprises a web server **3010** and one or more database **3020** to store and/or archive images received from the IDCs **2000**. The IICS **1000** uses the IDC **2000** (preferably a multi-mode, web-enabled portable device with a camera/video) to transmit a still image, video and audio (collectively referred to herein as the "data"), onto the Internet **4000** via a multi mode Internet Access Antenna (IAA) **2600** to a monitored WSARC **3000**. The IDC **2000** can connect to the Internet via, but not limited to, land line, DSL, cable, satellite, wireless network, cellular, Wi-Fi, Wi-Max and the like. Preferably, the IDC **2000** connects to the Internet via a primary mode of communication and switches over the secondary mode of communication if the IDC **2000** detects a

failure in the primary mode of communication. For example, if the IDC **2000** is programmed or setup to use Wi-Fi as a primary mode of communication, the IDC **2000** can switch to a cellular communication if the Wi-Fi communication is lost or unavailable.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises an embedded address, a subscriber identification module (SIM) card **2610** or other comparable device or means to enable the IDC's connection to the WSARC **3000** to be embedded, preset, encrypted, proprietary and firewall protected. If the IDC **2000** is faulty or inoperable, the user can simply remove its SIM card **2610** and install it in the new IDC **2000**. That is, the SIM card **2610** is interchangeable from one IDC **2000** to another IDC **2000**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a microcontroller or microprocessor **2200** for controlling the various components of the IDC **2000**, a display **2300**, preferably LCD display, to display captured images, an image-forming optical system **2500** for capturing images, a compression module **2210** for compressing captured images, a storage device **2400** for storing and/or archiving capture images, an image adjusting module **2220** for performing image processing on a stored/archived digital image and a text module **2230** for superimposing text information on a stored/archived digital image. In accordance with an embodiment of the present invention, the microcontroller **2200** controls the compression module **2210** to perform image compression, e.g., JPEG, Huffman, wavelet and the like and outputs images in JPEG, TIFF, GIFF and other known formats for storage in the storage device **2400** and/or transmission to the WSARC **3000**. The microcontroller **2200** also can control the image adjusting module **2220** to adjust the resolution of image stored/archived in the storage device **2400** on a continuous scale with preferred preservation of aspect ratio either before or after storage therein or before or after transmission to the WSARC **3000**.

All of the electronic, mechanical, optical and display components of the IDC **2000** are housed within a camera body **2100**. A viewfinder **2530** allows the operator to view a scene corresponding to, or identical to, an image formed on an image pickup **2510** of the IDC **2000** via the image-forming optical system **2500**. The image-forming optical system **2500** can comprises an optical and/or digital zoom lens, or an auto-focus system, which can be controlled by the microprocessor **2200**. That is, in accordance with an exemplary embodiment of the claimed invention, the microprocessor **2200** can increase the magnification of the optical/digital zoom lens of the image-forming optical system **2500** to enable the IDC **2000**, such as a tablet or Smartphone, to be advantageously used as a binocular or microscope. Alternatively or in addition, the IDC **2000** comprises a removable optical or digital zoom lens attachment, thereby enabling the user to change the magnification capability of the IDC **2000** by changing to different lens attachment, e.g., wide-angled lens attachment, a telescopic zoom lens, etc.

The display **2300** displays the results of user interaction, status reporting to the user and images/vides captured or received by the IDC **2000**. The storage device **2400** can be a memory, a hard drive, a DRAM, a NAND, a flash memory, a memory stick, a storage disk and the like. It is appreciated that IDC **2000** without the storage device **2400** has the benefit of lowering the cost of the IDC **2000**. The storage device **2400** advantageously enables the user to continue recording even if the Internet connection is temporarily lost or unavailable.

Instead of the viewfinder **2530**, the IDC **2000** in accordance with an embodiment of the present invention utilizes a detachable or integrated full video (LCD) display **2300**. Accordingly, the display **2300** is a color or grayscale (video) LCD, and the microcontroller **2200** drives the display **2300** to show images formed on the image pickup **2510**.

In accordance with an exemplary embodiment of the present invention, the storage device **2400** records the data constantly, preferably with a chosen time frame override. In accordance with an aspect of the present invention, the IDC **2000** transmits the data to the WSARC **3000** and simultaneously records the data on the storage device **2400**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a meter that shows amount of time or data remaining to be transmitted to the WSARC **3000**.

In accordance with an exemplary embodiment of the present invention, the storage device **1120** records the data when the Internet connection is lost. The IDC **2000** transmits the stored/archived data when the Internet connection to the WSARC **3000** is re-established. Preferably, the storage device **2400** records the data until all recorded data is sent to the WSARC **3000** over the Internet **4000** and then move seamlessly to transmitting live data without loss of data.

In accordance with an exemplary embodiment of the present invention, the storage device **1120** records the data where Internet access is unavailable, such as a factory or a remote site. Periodically, the IDC **2000** can be moved to a site where Internet access is available and the recordings can be transmitted to the WSARC **3000**. In accordance with an embodiment of the present invention, the IDC **2000** can be replaced with another IDC **2000** so the recording is continuous. Preferably, the storage device **2400** is removable such that the storage device **2400** is periodically replaced with a new one so that the recording is continuous. The recordings on the removed IDC **2000** and/or the storage device **1120** are then transferred to the WSARC **3000**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a light indicator, such as an LED **2310**, indicating whether the IDC **2000** is connected to the Internet (i.e., the WSARC **3000**). The LED **2310** is "green" to indicate that the IDC **2000** is connected to the WSARC **3000** and "red" to indicate that the IDC **2000** is not connected to the WSARC **3000**. This will advantageously enable the user or operator of the IDC **2000** to know the status of the Internet connection immediately. In accordance with an aspect of the present invention, if the WSARC **3000** loses connection to an IDC **2000**, the WSARC **3000** sends an email to a predetermined address or places a phone call to a predetermined number (or other comparable notification means) designated by the registered user of the IDC **2000**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a motion sensor **2700** for activating the recording only when the motion sensor **2700** detects motion. For example, this can be useful for monitoring remote, unpopulated locations, such as a warehouse or a factory in off-hour or a summer or winter home in off-season, for any unauthorized intrusion. Preferably, the IDC **2000** only records when the motion sensor **2700** detects an activity or motion within a monitoring area or site. In accordance with an aspect of the present invention, upon activation of the IDC **2000**, the WSARC **3000** can be setup or program to send an email to a predetermined address or place a phone call to a predetermined number (or other comparable notification means), which can be designated by the registered user of the IDC **2000**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** can be placed or mounted on a mounting device **1100** which can rotate or pivot the IDC **2000**, thereby enabling the operator to remotely control the IDC **2000** via the WSARC **3000**. As noted herein, for example, when the registered user receives an email or a phone call that the IDC **2000** has detected an activity within a warehouse, the registered user can log onto the WSARC **3000** and remotely operate one or more IDCs **2000** within the warehouse to determine the cause of this activity. Alternatively, an operator associated with the WSARC **3000** can remotely operate one or more IDCs **2000** within the warehouse to determine the cause of this activity. Such remote monitoring capability with the IICS **1000** enables the operator of the WSARC **3000** or the registered user to quickly determine if the activity is a false alarm or real intrusion that needs to be dealt with and reported to the local police authority.

In accordance with an exemplary embodiment of the present invention, the WSARC **3000** is staffed with operators, technicians, security personnel and the like to provide a full monitoring service, such as 24/7 (24 hours/7 days a week) monitoring service. If the operator of the WSARC **3000** determines if there is an incident or event warranting a investigation within a remote monitoring site, such as a home, office, warehouse, etc., the operator can dispatch a security personnel to investigate the incident.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a battery **2800**, which provides power to all of the components of the IDC **2000**. It is appreciated that IDC **2000** can be powered by any variety of power sources. The IDC **2000** can be powered exclusively by the internal battery **2800** or by other power sources, such as solar power or AC power with the internal battery **2800** serving as a backup power source. Preferably, the internal battery **2800** is a rechargeable battery that can be recharged by solar or electrical power. The rechargeable battery can incorporate an AC adapter, preferably provided outside the IDC **2000** in order to reduce the size of the camera. The AC adapter plugs into a conventional AC outlet, and can be a "Universal" AC adapter connectible to various worldwide AC supplies. In accordance with an embodiment of the present invention, the IDC **2000** can be setup or programmed to alert the WSARC **3000** to send an email to a predetermined address or place a call to predetermined number (or other comparable notification means) when the IDC **2000** determines the power of the battery **2800** is below a predetermined threshold. Additionally, the WSARC **3000** automatically sends an email to a predetermined address or place a call to a predetermined number (or other comparable notification means) when the WSARC **3000** is unavailable to communicate with WSARC **3000** for any reason, such as loss of power, loss of Internet connection, etc. This advantageously alerts the registered user of the IDC **2000** to replace the IDC's battery **2800**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** can be used as a cell phone employing voice over IP (VOIP) via the Internet connection or traditional cellular network for voice communication and/or data transmission, such as text messages. Additionally, the IDC **2000** can use the Internet connection to download live or recorded audio and/or video content from the Internet. The necessary hardware and software components can reside within the IDC **2000** or in a separate device removable attachable to the IDC **2000**.

In accordance with an exemplary embodiment of the present invention, the IICS **1000** is deployed in a warehouse with 10 IDCs **2000**. The registered user or an operator of the WSARC **3000** can view all ten IDCs **2000** individually, together or in a group. It is appreciated that more IDCs **2000** can be added or distributed over multiple warehouses or buildings.

In accordance with an exemplary embodiment of the present invention, the image pickup **2510** of the IDC **2000** can be infrared or UV light sensor suitable for recording or generating infrared or UV images. Preferably, the IDC **2000** comprises a scope-shaped attachment that can provide specialized lighting and/or scope-shaped magnified zoom lens to provide specialized viewing. For example, this enables the IDC **2000** to record fine cracks and crevices in machinery and/or building. The infrared light capability advantageously permits the IICS **1000** to operate in low light to monitor building or warehouse at night.

In accordance with an exemplary embodiment of the present invention, the WSARC **3000** is accessible by registered users and users authorized by registered users using their login name and password. The registered user can give other users access or viewing rights to certain files, folders, etc. on a permanent or temporary basis. That is, the user's ability to view recordings or data stored/archived in the WSARC **3000** will be dictated by the rights assigned to the user. The grouping and granting of certain viewing rights can be pre-set by the registered user or owner of the account. In accordance with an exemplary embodiment of the present invention, the WSARC **3000** can provide temporary access based on certain preference or fee. For example, to help cover the cost of recording Little League baseball games, a registered user can establish an account so parents, grandparents and friends of the players can access and download the recordings of the games for a fee. The fee can be one-time fee (i.e., for the entire season), per game, per access, etc.

It is appreciated that WSARC **3000** comprises standard known tools to enable the registered user can organize their images. In accordance with an exemplary embodiment of the present invention, the registered user can organize the images by location, e.g., warehouse, home, country house, etc., using a file folder hierarchy structure. When a user clicks on one of the displayed location, the WSARC **3000** displays another menu listing the groups within that location. For example, when a user clicks the location labeled "warehouse," the WSARC **3000** can list the following groups: office, garage, interior warehouse, outside perimeter, parking lot, etc. When a user clicks the location labeled "home," the WSARC **3000** can list the following groups: 1st floor, 2nd floor, living room, dining room, kitchen, garage, bedroom **1**, bedroom **2**, basement, outside perimeter, etc.

In accordance with an exemplary embodiment of the present invention, the WSARC **3000** can archive the recordings by date (such as year), name, or by event titled by the registered user. That is, the registered user can name or rename the recordings. This advantageously enables the user to search the archive by date, name or event. The registered user can label the events such as weddings, birthdays, anniversaries, etc. When a user clicks on an event labeled "birthdays," the WSARC **3000** displays a list of all of titles named "birthday,' for example:

Rita Marie's 1st Birthday
Rita Marie's 16th Birthday
Frankie's 1st Birthday
Alex's 1st Birthday
Mommy's 30th Birthday
Grandma's 70th Birthday

It is appreciated that these events is also searchable by date and name. These events would be available to search by date

and by group name. Whichever method is easier for the user to find, this all depends on the detail of label a given user employs.

In accordance with an exemplary embodiment of the present invention, the text module **2230** enables the registered user to type over the images before the images are transmitted to the WSARC **3000**. Preferably, the LCD display **2300** comprises a touch keypad for entering text and labeling the image before it is transmitted to the WSARC **3000**.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a plug-in, e.g., USB port, for a microphone or headphones, to enable to the user to record voice over the live or recorded images. Alternatively, the WSARC **3000** comprises tools to enable the registered user to edit the recorded images to record voice over the stored/archived images to clarify, comment or explain the recorded images.

In accordance with an exemplary embodiment of the present invention, the LED **2310** is a white and/or colored LED to operate as a white and/or colored strobe light.

In accordance with an exemplary embodiment of the claimed invention, the image-forming optical system **2500** and the LCD display **2300** can operate together to provide a live still, streaming or video image of the user of the IDC **2000**, thereby, for example, enabling the user to use the IDC **2000** as a mirror. In addition or alternatively, the microprocessor **2200** is operable to control the LCD display **2300** to provide a magnified mirror. The user can use the touch keypad of the LCD display **2300** to change the magnification of the mirror.

In accordance with an exemplary embodiment of the embodiment of the present invention, each account at WSARC **3000** can be assigned to one or more registered users, thereby permitting each registered user of the account to seamlessly transmit and receive images from the other registered user. For example, the parents are vacationing in Europe, the grandparents live in Brazil, Rita Marie is skiing in New Zealand, Alex is playing football in Florida and Frankie is diving in Hawaii. The IICS **1000** of the present invention enables the parents to seamlessly receive images from and transmit images to their daughter in New Zealand, the grandparents in Brazil and their sons in Hawaii and Florida.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a web browser linked to the Internet **4000**. The registered user can use the IDC **2000** to retrieve or view stored/archived images in its account on the WSARC **3000**, manage its WSARC account, send/receive emails via an email account established on the WSARC **3000** or surf the Internet.

In accordance with an exemplary embodiment of the present invention, the IDC **2000** comprises a global position system (GPS) **2900** to determine the current location of the IDC **2000** and to provide such GPS location information to other IDC **2000**. Also, the IDC **2000** can transmits the GPS location information with the data (e.g., still, audio and/or video image) to the WSARC **3000** over the Internet **400**. It is appreciated that the GPS **2900** is a standard equipment in certain IDC **2000**, such as a Smartphone **2000**.

In accordance with an exemplary embodiment of the claimed invention, the IDC **2000** communicates with a satellite to obtain a satellite image, preferably live satellite image, of its current GPS location as determined by the GPS **2900**. The satellite image received by the IDC **2000** is displayed on the LCD display **2300**. The user can input location (e.g., user's current or another location) and zooming instructions for the satellite to the microprocessor **2200** using the touch keypad of the LCD display **2300**. The processor **2200** transmits signals comprising location or zooming instructions to the satellite or satellite controller for the satellite to zoom in a particular location or adjust magnification of the satellite image based the zooming instructions.

In accordance with an exemplary embodiment of the present invention, the registered user can access the WSARC **3000** using the IDC **2000** or a standard computer to retrieve, view stored/archived images, email stored/archived images or download stored/archived images onto a CD, DVD and the like.

The IDC **2000** of the present invention comprises all of the standard known components to capture digital images, make a connection to the Internet, and transmit images over the Internet. This advantageously enables the IDC **2000** to be used in many applications, such as in entertainment, advertising, education, security, traffic monitoring, weather monitoring, child care monitoring, surveillance, and general consumer applications.

Although the above description sets forth particular embodiments of the present invention, modifications of the invention will be readily apparent to those skilled in the art, and it is intended that the scope of the invention be determined solely by the appended claims.

The invention claimed is

1. An Internet direct device comprising an imaging system to capture audio or video images; a microprocessor to transmit the captured audio or video images to another Internet direct device upon image capture, and receive audio or video images from the other Internet direct device over a communications network; and wherein the Internet direct device automatically connects to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection, and wherein the Internet direct device automatically switches to another available mode of connection when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

2. The Internet direct device of claim **1**, wherein the plurality of available modes of connection is selected from a group consisting of: a land line, DSL, cable, satellite, wireless network, cellular, Wi-Fi, and Wi-Max.

3. The internet direct device of claim **1**, further comprising a storage device for locally storing captured audio or video images and the received audio or video images.

4. The Internet direct device of claim **1** is a tablet or a Smartphone with a camera comprising an optical or digital zoom lens to provide magnification for use as a binocular or microscope; and wherein the microprocessor is operable to control the magnification of the optical or digital zooms lens.

5. The Internet direct device of claim **1**, further comprising a GPS to determine a current location of the Internet direct device; and wherein the Internet direct device is configured to communicate with a satellite to obtain live satellite image of its current location.

6. The Internet direct device of claim **5**, further comprising a touch keypad to receive an input comprising a location and zooming instructions from a user; and wherein the Internet direct device is configured to communicate with a satellite to obtain live satellite image of the location entered on the touch keypad and to adjust a magnification of the satellite image based on the zooming instructions.

7. The Internet direct device of claim **1**, further comprising a white or colored LED to operate as a white or colored strobe light.

8. The Internet direct device of claim **1**, further comprising a LCD display and a touch keypad to receive an input comprising magnification instructions from a user; and

wherein the microprocessor is operable to control the LCD display to provide a magnified mirror and adjusts a magnification of the mirror based the magnification instructions.

9. The Internet direct device of claim **1**, wherein the microprocessor transmits the captured audio or video images to an account associated with the Internet direct device on a website upon image capture.

10. A method for transmitting and receiving audio or video images by an Internet direct device associated with a user over a communications network, comprising the steps of:

automatically connecting the Internet direct device to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection;

capturing audio or video images by an image capture system of the Internet direct device;

transmitting the captured audio or video images to another Internet direct device over the communications network upon image capture by a microprocessor of the Internet direct device;

receiving audio or video images from the other Internet direct device over the communications network by the Internet direct device; and

automatically switching to another available mode of connection by the microprocessor when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

11. The method of claim **10**, wherein the step of automatically switching comprises the step of switching to one of the following available modes of connection: a land line, DSL, cable, satellite, wireless network, cellular, Wi-Fi, and Wi-Max.

12. The method of claim **10**, further comprising the steps of locally storing the captured audio or video images in a storage device of the Internet direct device by the microprocessor when the connection to the communications network is unavailable.

13. The method of claim **10**, wherein the Internet direct device is a tablet or a Smartphone with a camera comprising an optical or digital zoom lens to provide magnification for use as a binocular or microscope; and further comprising the step of controlling the magnification of the optical or digital zooms lens by the microprocessor.

14. The method of claim **10**, further comprising the steps of determining a current location of the Internet direct device by a GPS, and communicating with a satellite to obtain live satellite image of the current location of the Internet direct device.

15. The method of claim **14**, further the steps of: receiving an input comprising a location and zooming instructions entered on a touch keypad of the Internet direct device from a user; and communicating with a satellite to obtain live satellite image of the location entered on the touch keypad and to adjust magnification of the satellite image based on the zooming instructions.

16. The method of claim **10**, further comprising the step of controlling a white or colored LED of the Internet direct device to provide a white or colored strobe light.

17. The method of claim **10**, further comprising the steps of: receiving an input comprising magnification instructions entered on a touch keypad of the Internet device form a user; controlling a LCD display to provide a magnified mirror by the microprocessor; and adjusting a magnification of the mirror based the magnification instructions by the microprocessor.

18. The method of claim **10**, further comprising the step of transmitting the captured audio or video images to an account associated with the Internet direct device on a website upon image capture.

19. A non-transitory storage medium comprising a program for transmitting and receiving audio or video images over a communications network when executed by an Internet direct device associated with a user to cause the Internet direct device to:

automatically connect the Internet direct device to the communications network on power-up using one of a plurality of available modes of connection, which is designated as a primary mode of connection;

capture audio or video images by an image capture system of the Internet direct device;

transmit the captured audio or video images to another Internet direct device over the communications network upon image capture by a microprocessor of the Internet direct device;

receive audio or video images from the other Internet direct device over the communications network by the Internet direct device; and

automatically switch to another available mode of connection by the microprocessor when the Internet direct device detects that the primary mode of connection to the communications network is unavailable.

20. The storage medium of claim **19**, the program when executed causes the Internet direct device to automatically switch to one of the following available modes of connection: a land line, DSL, cable, satellite, wireless network, cellular, Wi-Fi, and Wi-Max.

21. The storage medium of claim **19**, the program when executed causes the Internet direct device to locally store the captured audio or video images in a storage device of the Internet direct device by the microprocessor when the connection to the communications network is unavailable.

22. The storage medium of claim **19**, wherein the Internet direct device is a tablet or a Smartphone with a camera comprising an optical or digital zoom lens to provide magnification for use as a binocular or microscope; and the program when executed causes the Internet direct device to control the magnification of the optical or digital zooms lens by the microprocessor.

23. The storage medium of claim **19**, the program when executed causes the Internet direct device to determine a current location of the Internet direct device by a GPS, and to communicate with a satellite to obtain live satellite image of the current location of the Internet direct device.

24. The storage medium of claim **23**, the program when executed causes the Internet direct device to receive an input comprising a location and zooming instructions entered on a touch keypad of the Internet direct device from a user; and to communicate with a satellite to obtain live satellite image of the location entered on the touch keypad and to adjust magnification of the satellite image based on the zooming instructions.

25. The storage medium of claim **19**, the program when executed causes the Internet direct device to control a white or colored LED of the Internet direct device to provide a white or colored strobe light.

26. The storage medium of claim **19**, the program when executed causes the Internet direct device to receive an input comprising magnification instructions entered on a touch keypad of the Internet device form a user; to control a LCD display to provide a magnified mirror by the microprocessor; and to adjust a magnification of the mirror based the magnification instructions by the microprocessor.

27. The storage medium of claim 19, the program when executed causes the Internet direct device to transmit the captured audio or video images to an account associated with the Internet direct device on a website upon image capture.

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(54) **INTEGRATED INTERNET CAMERA SYSTEM AND METHOD**

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INTER PARTES REVIEW CERTIFICATE
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Trial No. IPR2017-02055
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AS A RESULT OF THE INTER PARTES REVIEW PROCEEDING, IT HAS BEEN DETERMINED THAT:

Claims **1**, **2**, **10**, **11**, **19** and **20** are cancelled.

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